

CLAIMS

1. A remote object invocation method for invoking a method of a remote object; the method comprising the steps of
5 producing remote object data associated with the remote object;

interpretatively establishing a proxy object using the remote object data; the proxy object bearing an associated proxy method corresponding to the method of remote object;

invoking, in response to an action of client software, the proxy object method;
10 conveying invocation data associated with the invocation of the proxy method to the remote object;

invoking, in response to the invocation data, the method of the remote object; and

returning invocation result data to the client software via the proxy object.
2. A remote objection invocation method as claimed in claim 1 in which the step of
15 producing the remote object data comprises the step of introspecting the remote object to produce introspection data and in which the remote object method data comprises the introspection data produced by said introspecting.
3. A method as claimed in any preceding claim further comprising the step of creating an object descriptor for the remote object.
- 20 4. A method as claimed in claim 3, in which the step of creating the object descriptor for the remote object comprises the step of storing the object descriptor in a cache for later retrieval; the later retrieval being responsive to a request to create an instance of the remote object.
5. A method as claimed in either of claims 3 and 4, further comprising the step of
25 determining whether or not an instance of the remote object has been created and in which the step of creating the object descriptor is responsive to a determination that an instance of the remote object has not been created.
6. A method as claimed in any preceding claim, further comprising the step of generating location data to facilitate location of a corresponding instance of the

remote object.

7. A method as claimed in claim 6 in which the step of generating the location data comprises the step of generating an identifier associated with the corresponding instance of the remote object.
- 5 8. A method as claimed in any preceding claim, further comprising the step of instantiating the remote object.
9. A method as claimed in claim 8 in which the step of instantiating the remote object is performed in response to a determination that the remote object has a predetermined characteristic.
- 10 10. A method as claimed in claim 9 in which the predetermined characteristic is that the remote object is stateless.
11. A method as claimed in claim 9 in which the predetermined characteristic is that the remote object is stateful.
12. A method as claimed in any of claims 8 to 11 in which the step of instantiating is performed in response to initialisation of a system hosting the remote object.
- 15 13. A method as claimed in any of claims 8 to 12, further comprising, prior to the step of instantiating, the step of determining whether or not remote object is permitted to be instantiated and in which the step of instantiating is performed in response to determining that the remote object is permitted to be instantiated.
- 20 14. A method as claimed in any preceding claim, further comprising the step of encapsulating the remote object data within a data structure.
15. A method as claimed in claim 14 in which the data structure is an XML file.
16. A remote object invocation method for invoking a method of a remote object; the method comprising the steps of introspecting the remote object to produce introspection data associated with the method; interpretatively processing the introspection data to establish a proxy object bearing an associated proxy method for the remote object method; invoking, in response to an action of client software, the proxy object method; conveying invocation data associated with the proxy object method to the remote object; invoking, in response to the invocation data, the method of the remote object; and returning invocation result data to the client software via the
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object proxy.

17. A method of invoking, from a first computer, a remote object located on a second computer, the method comprising the steps of introspecting, at the second computer, the remote object to identify at least one of a method, property and event thereof to produce introspection data that describes any such identified methods, properties and events; transmitting the introspection data, via a first transport mechanism, to the first computer; creating, at the first computer, a proxy object from the introspection data; invoking, at the first computer, a method of the proxy object; transmitting, from the first computer to the second computer, remote method invocation data, via a second transport mechanism; the remote method invocation data comprising at least an indication of the remote object and the method, property and event thereof to be invoked; receiving, at the second computer, via the second transport mechanism, the remote method invocation data, extracting, at the second computer, the remote method invocation data from the second transport data structure; invoking, at the second computer, the method, property or event of the remote object identified by the remote object invocation data; transmitting, from the second computer to the first computer, via a third transport mechanism, a return object or data representing the results of the invocation of the method, property or event of the remote object; and extracting, at the first computer, the return object or data from the third transport mechanism; wherein the step of creating, at the first computer, the proxy object from the introspection data comprises the step of interpretatively parsing the introspection data and interpretatively constructing the proxy object.
18. A method as claimed in claim 17 in which the transport mechanisms comprises a combination of an XML file bearing the information to be conveyed and the HTTP.
19. A data processing method to invoke a method of a remote object; the method comprising the steps of producing remote object data associated with the remote object; interpretatively establishing a proxy object using the remote object data; the proxy object bearing an associated proxy method corresponding to the method of remote object.
20. A data processing method as claimed in claim 19 further comprising the steps of invoking, in response to an action of client software, the proxy object method; and conveying invocation data associated with the invocation of the proxy method to the remote object.

21. A data processing method as claimed in claim 20, further comprising the steps of invoking, in response to the invocation data, the method of the remote object; and returning invocation result data to the client software via the proxy object.
- 5 22. A system comprising means to implement a method as claimed in any preceding claim.
- 10 23. A remote object invocation system to invoke a method of a remote object; the system comprising an inspector to produce remote object data associated with the remote object; an interpreter to interpretatively establishing a proxy object using the remote object data; the proxy object bearing an associated proxy method corresponding to the method of remote object; an local invocation means to invoke, in response to an action of client software, the proxy object method; and a carrier to convey invocation data associated with the invocation of the proxy method to the remote object.
- 15 24. A remote object invocation system as claimed in claim 23 further comprising a remote invocation means to invoke, in response to the invocation data, the method of the remote object; and means to return invocation result data to the client software via the proxy object.
- 20 25. A remote object server hosting a remote object; the server comprising means to generate introspection data associated with the remote object and means to output the introspection data for use by a client in interpretatively creating a proxy object using the introspection data.
26. A client comprising means for receiving introspection data associated with a remote object and an interpreter for interpretatively creating a proxy object, using the introspection data, for invocation by an application executable at the client.
- 25 27. A computer program for implementing a method or system as claimed in any preceding claim.
28. A computer program product comprising computer readable storage storing a computer program as claimed in claim 27.